WorldatWork 2018 TOTAL REWARDS Conference & Exhibition

If You Can't Beat 'Em, Join 'Em: Embracing Automation and Machine Learning

Bryan Briscoe, Marriott
Paul Reiman, Commvault

WorldatWork

Moore's law: Rate of computing power growth since the 1980's



Today -> 18 Months -> 3 Years

Equivalent rate of Growth of Machine learning power since 2012



Artificial Intelligence is a lot like teenage sex:
Everyone talks about it
Nobody really knows how to do it
Everyone thinks everyone else is doing it
So everyone claims they are doing it

- Based on a Dan Ariely Quote

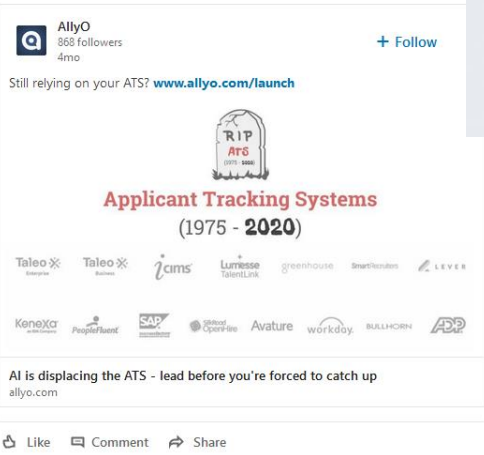
GETNERDYHR

One simple version of how AI started

- Arthur Samuel

GETNERDYHR

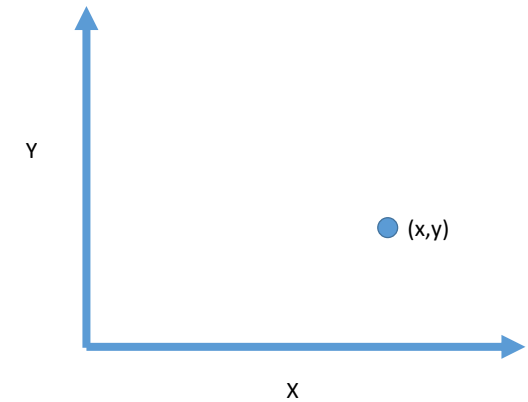
The HYPE



GETNERDYHR

Oversimplified Machine Learning

- Remember from Grade School

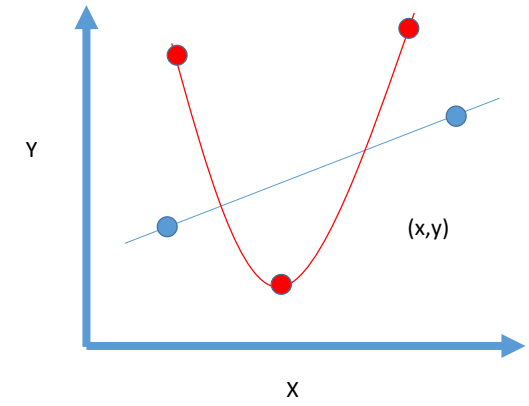


We learned how to plot a dot

GETNERDYHR

Oversimplified Machine Learning

- Remember in Middle School



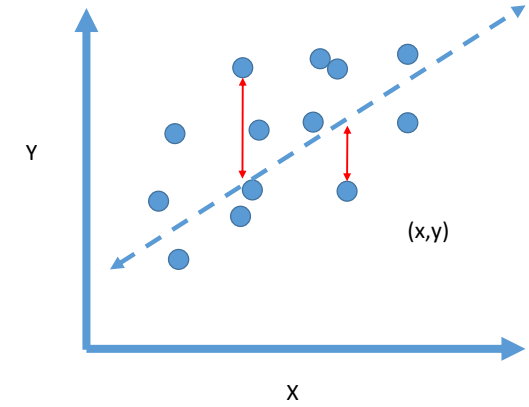
We learned how to plot lines
- (Y= mX + b)

Some of us learned how to do fancy lines
- Y=ax^2 + bx + c

GETNERDYHR

Oversimplified Machine Learning

- Remember from High School (or maybe college)



We learned how to make lines of best fit
We call that regression

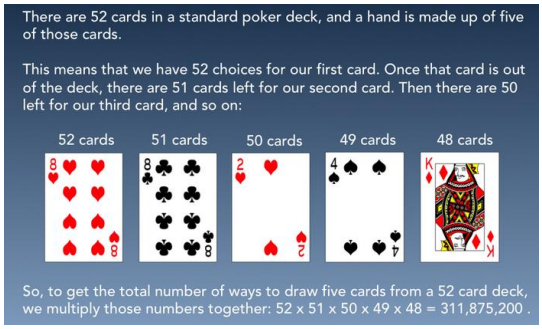
Calculate Standard Error:
For things like variance, standard deviation, R-Squared, etc.

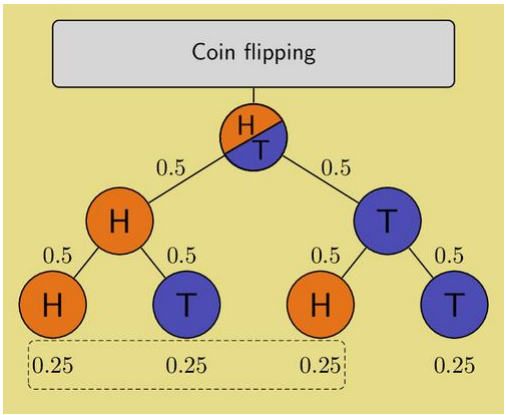
And Along with and related to that, we talk about things like R-squared and can blend in what we learned in statistics about probability and looking at outcomes.

GETNERDYHR

Oversimplified Machine Learning

- Remember still from High School (or maybe college, or maybe graduate school)
  - There was STATISTICS
  - Which dealt with probability and prediction





GETNERDYHR

Machine Learning (and Data Analytics Concepts)

Supervised vs. Unsupervised Learning

Classification vs. Regression/Continuous

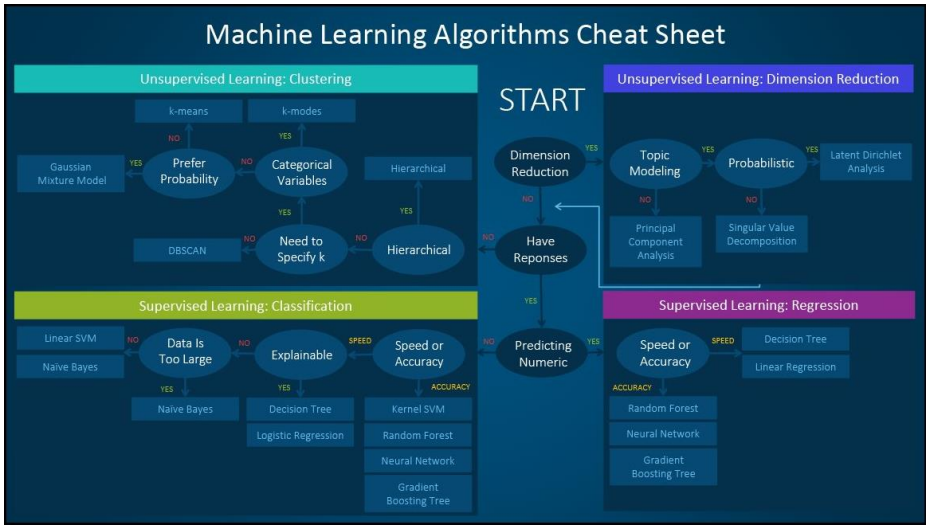
Neural Networks

Natural Language Processing

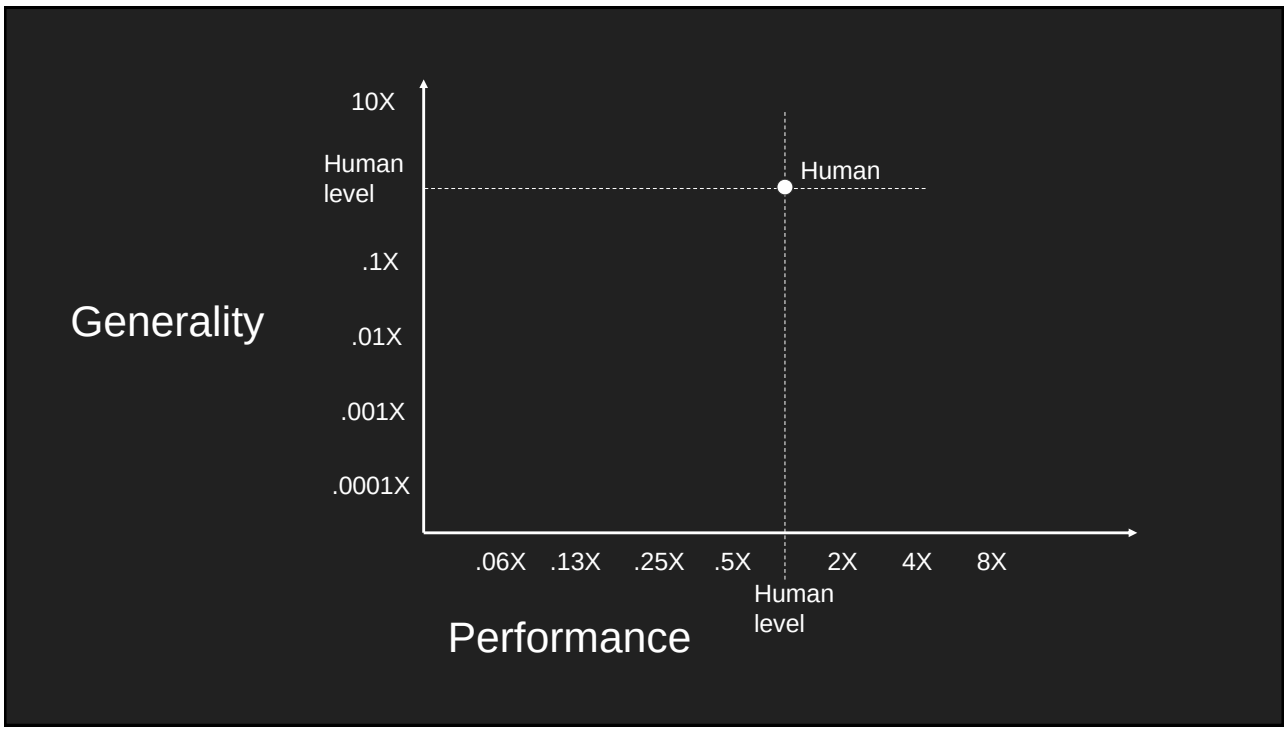
Data Featuring

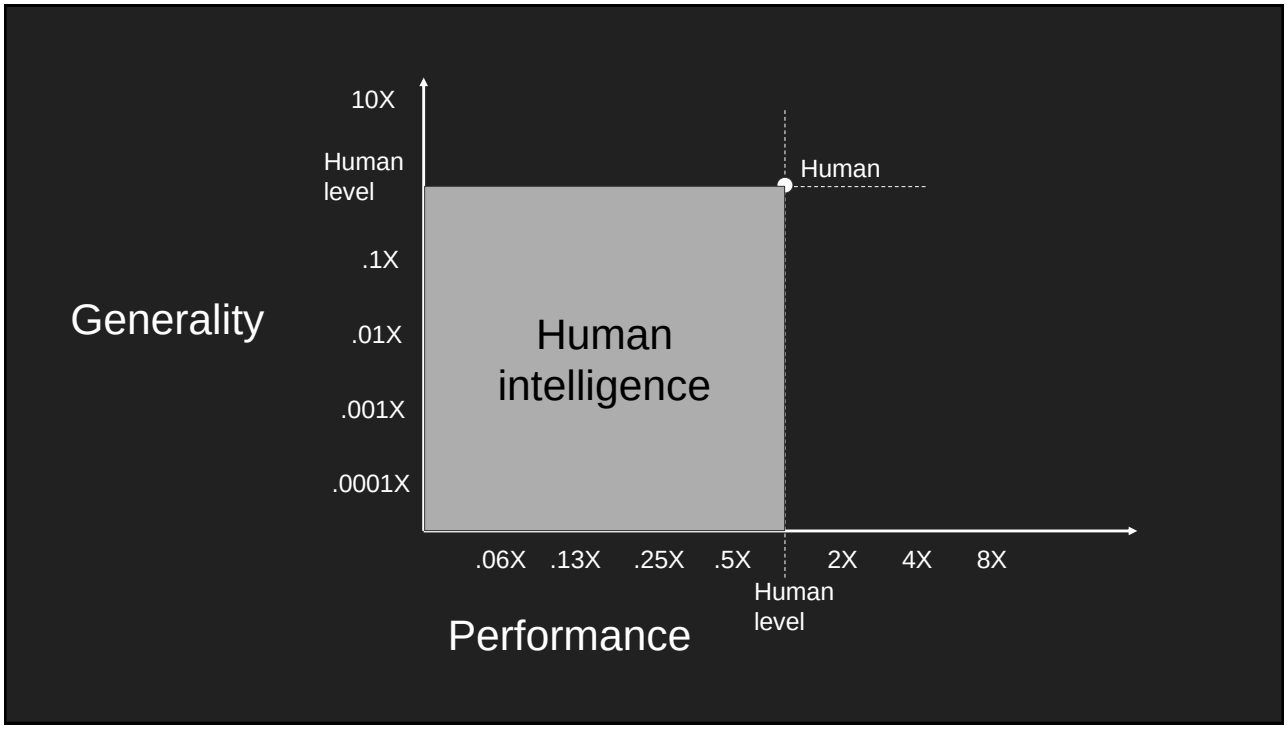
GETNERDYHR

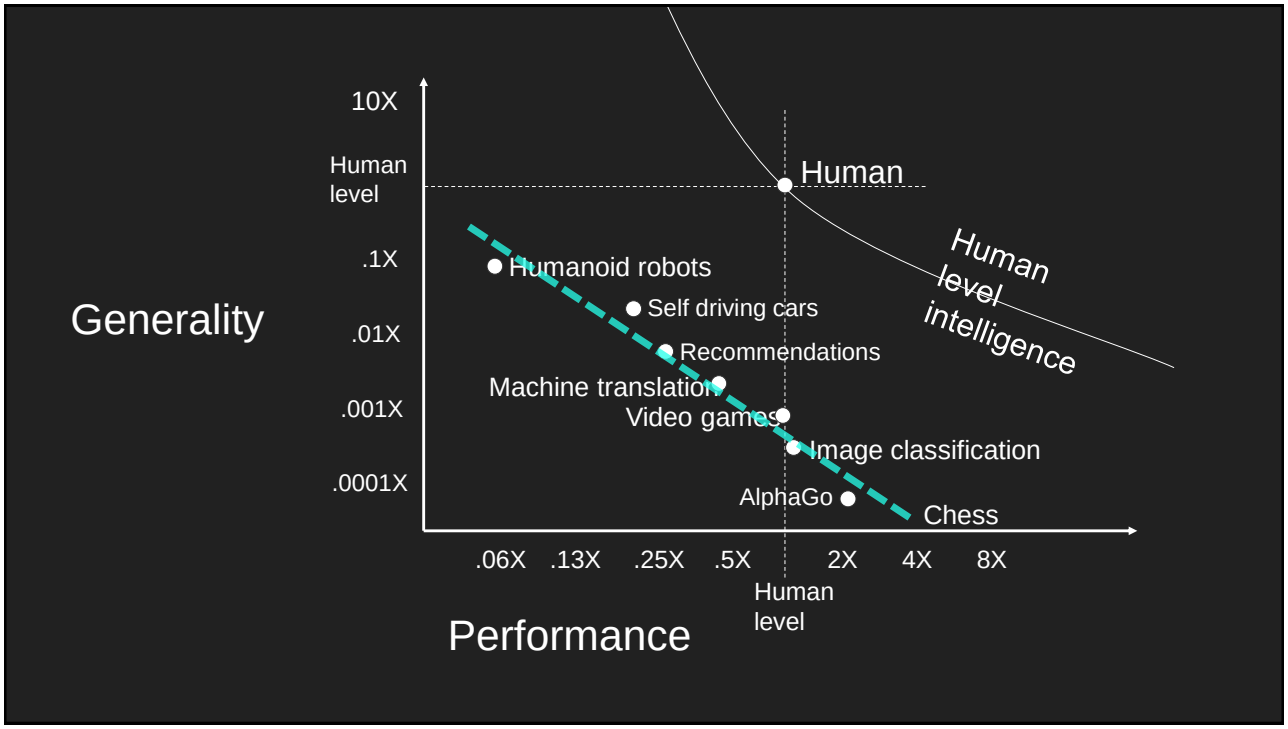
Different tools for different problems



GETNERDYHR




Generality
10X
Human level
.1X
.01X
.001X
.0001X
Human
Human intelligence
.06X
.13X
.25X
.5X
2X
4X
8X
Human level
Performance


Generality
10X
Human level
.1X
.01X
.001X
.0001X
Human
Human level intelligence
Humanoid robots
Self driving cars
Recommendations
Machine translation
Video games
Image classification
AlphaGo
Chess
.06X
.13X
.25X
.5X
2X
4X
8X
Human level
Performance

What About Deep Learning?

AlphaZero performance

Beat previously best machines at

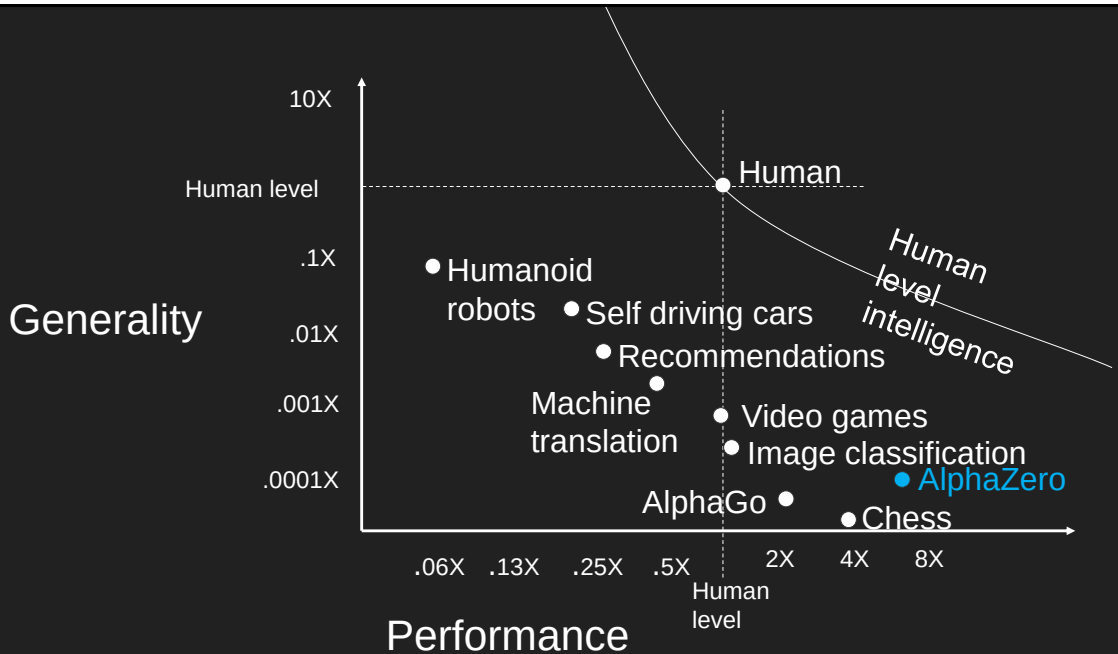
- Chess (Stockfish)
- Shogi (Elmo)
- Go (AlphaGo Zero)

each of which handily beats humans

AlphaZero generality

Go, chess and shogi

Possibly others

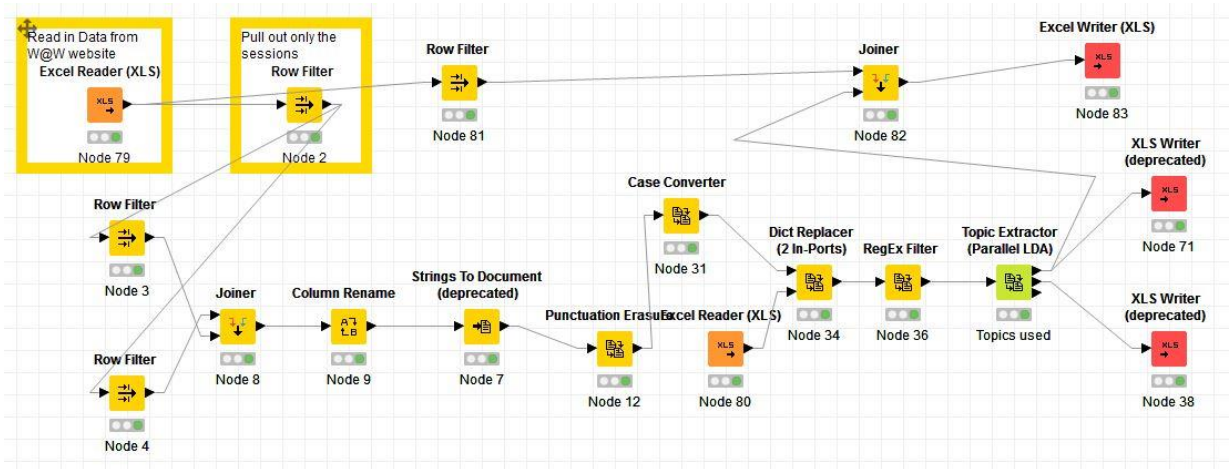


What you have to know about AI right now?

- What is it good for?
  - What kind of problems are ripe for AI?
  - What kind of issues do you deal with that AI is terrible at?
- Do you have the right kind of data?
  - Even if AI is suited for a problem really well such as a retention analysis, is the data really organized, and robust enough to do it well?

GETNERDYHR

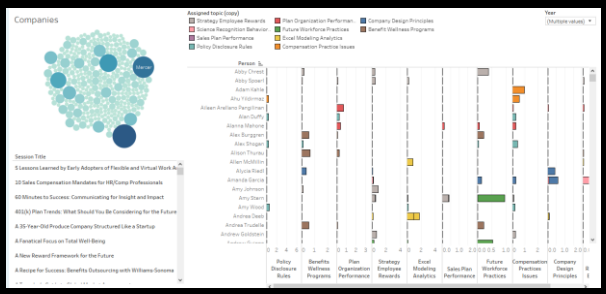
ML IRL

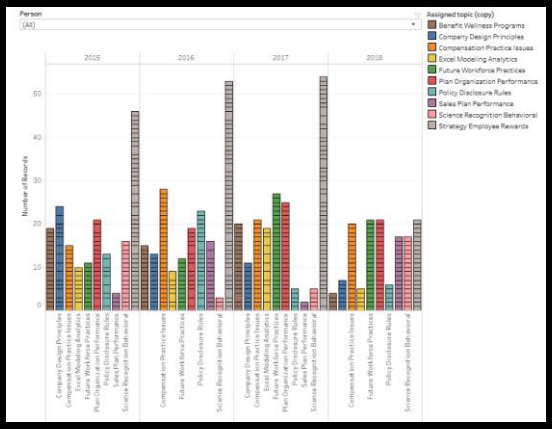


GETNERDYHR

Using only data from the conference website passed the basic NLP workflow from the last slide, we created an automated, scalable analysis of the topics of conference sessions, which anyone can explore, drill down into, etc.

(Check our getnerdyhr.com for links and some explanation)





So what could go wrong?

Inherent Risks with AI

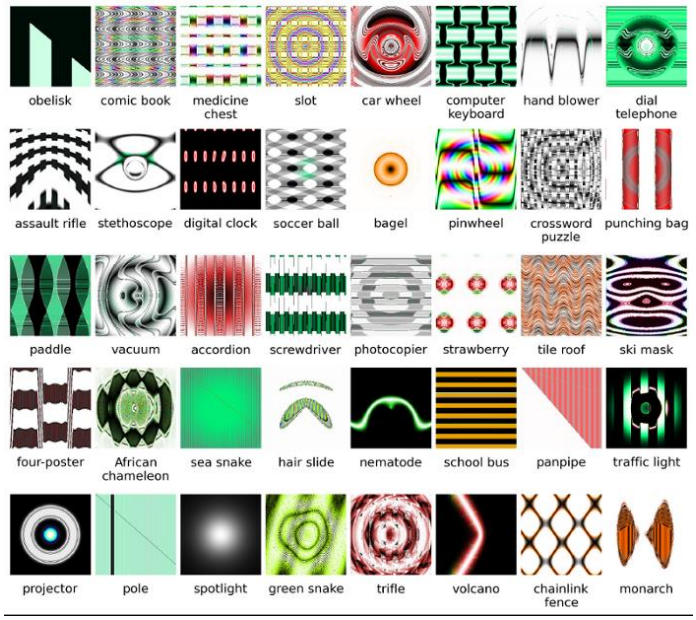
1. Data → [redacted] → Conclusions
2. ◊(What's True ≠ What's Right)
3. Even the robots can be fooled

GETNERDYHR

I've got this unemotional, sociopathic, amoral friend who doesn't know right from wrong. They are ignorant of all laws, truly don't care if people live or die, and have no understanding of the public relations impact of their choices. But they are amazing at analyzing data and can predict who to hire and how much to pay. I can't fully explain how they do it, but it's magical.

GETNERDYHR

I am 99.12% sure this is a…



http://www.evolvingai.org/fooling

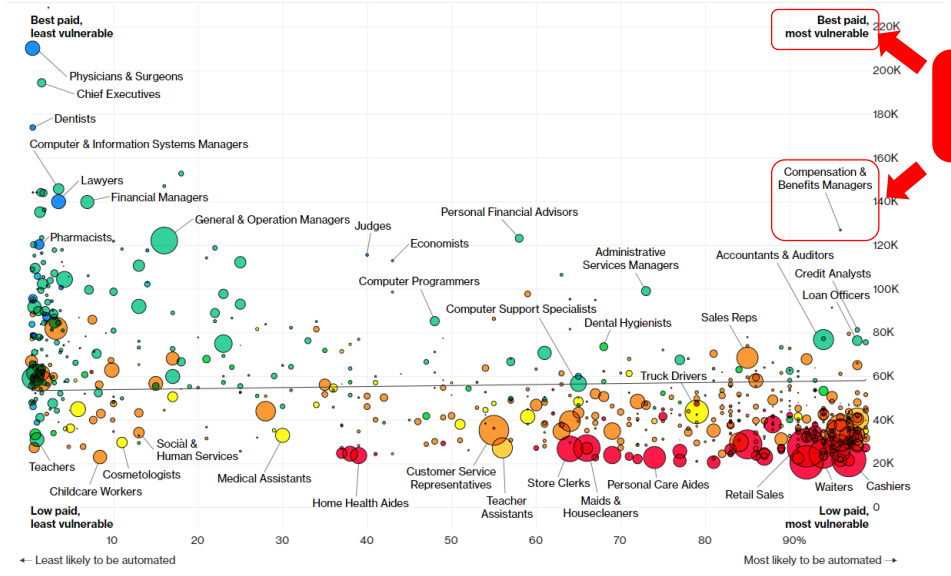
GETNERDYHR

Problems occur when we don't respect what AI is…

Or when we assume it adds no value.

GETNERDYHR

Well this is awkward…



Look mom! That's me!

GETNERDYHR

And then the good news

- About a year later McKinsey did a similar analysis on the same groups, and put automation at about a 20% risk (very low).

Who should we believe?

GETNERDYHR

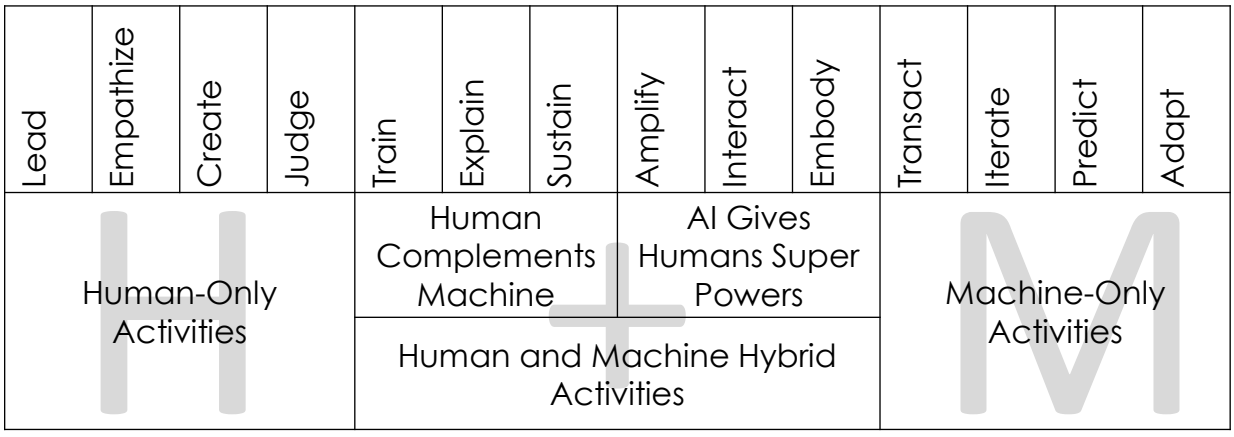
The answer is BOTH

Much of the work we *have done* can be automated

There is other work we can (and should) do

GETNERDYHR

Machines + People <> Machines vs. People

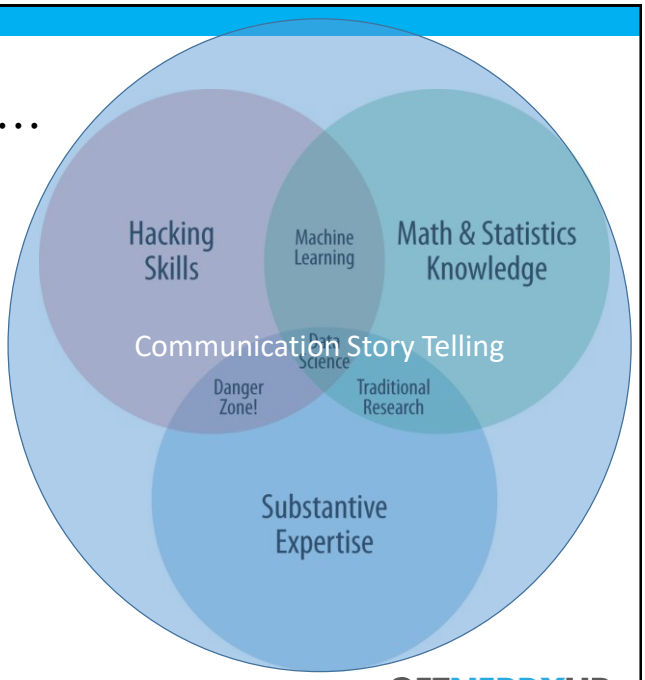


"Human + Machine | Reimagining work in the age of AI"

GETNERDYHR

How to Outrun the Robots…

- Data Science/Analytics
  - Data Visualization
    - Microsoft BI, Tableau, Qlik, Microstrategy, etc.
  - Analytics
    - Python, R, KNIME, Alteryx, etc.
- Training
  - Business Knowledge/Expertise
  - Technical and Data skills
  - Statistics/Quantitative Skills
  - Communications/Story Telling



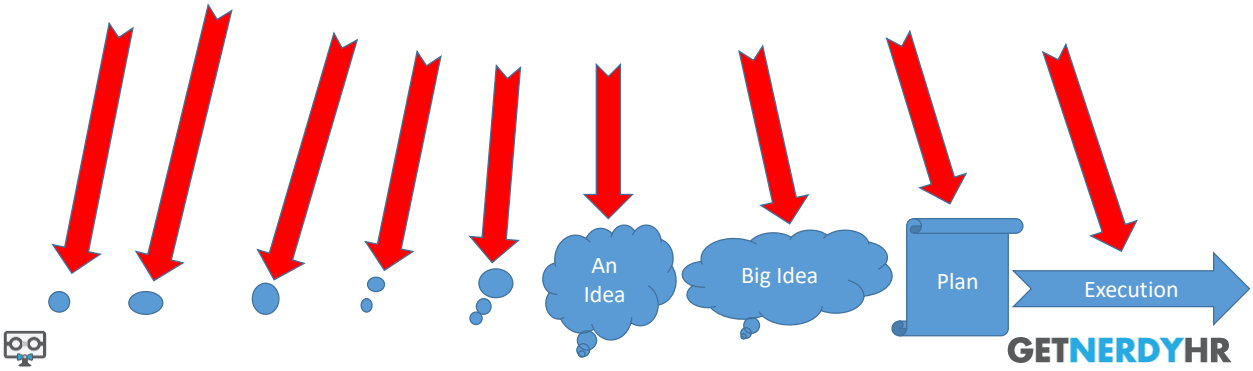
GETNERDYHR

Less	More
Survey Job Matching	Advising and Planning
Peer Group Selecting	Market Microtargeting
Manager Arm Twisting	Good Decision Defaulting
Generic Talking Points	Customized Communication

GETNERDYHR

The evolution of business questions to ask

- **Evolution 4:** [illegible] too much for important choices?



GETNERDYHR

Thank you!

Stay in touch with us by subscribing at www.getnerdyhr.com